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ABSTRACT

This volume presents a framework for developing courses of study in geography at grade levels 7-12. Several sample courses illustrate how the framework may be used. Five fundamental themes in geographic education provide the basis for the framework. The suggested learning opportunities are designed to incorporate various levels of thinking. These opportunities direct attention to the knowledge, skills, and attitudes that result in a total geography course. The fundamental themes for geographic education are: (1) Location: position on the Earth's surface; (2) Place: physical and human characteristics; (3) Relationships within places: humans and environments; (4) Movement: humans interacting on the Earth; and (5) Regions: how they form and change. The cognitive skills that are developed in these courses are grouped as follows: asking geographic questions; acquiring geographic information; presenting geographic data; interpreting and analyzing geographic information; developing and testing hypotheses and geographic generalizations. A glossary of selected terms and a list of references are included. (DB)

7-12

GEOGRAPHY

THEMES, KEY IDEAS, and LEARNING OPPORTUNITIES

The Geographic Education National
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7-12 GEOGRAPHY

Themes, Key Ideas, and Learning
Opportunities
Prepared for the
Geographic Education National Implementation Project

Announcing a New Middle & Secondary School Teaching Aid

Geography in Grades 7-12: Themes, Key Ideas, and Learning Opportunities

Prepared by the Geographic Education National Implementation Project (GENIP)
Committee on 7-12 Gepgraphy
Walter G. Kemball, Chair

This volume presents a framework for developing courses of study for middle and secondary school social studies programs. Also presented are several sample course formats illustrating how the framework may be implemented. The fundamental themes in geographic education provide the basis for the framework. The suggested learning opportunities are designed to incorporate various levels of thinking. These opportunities direct attention to the knowledge, skills and attitudes that result in a total geography course.

Geography in Grades 7-12 has a number of applications within the curriculum. It may be used as a model identifying and organizing learning activities, units, and courses. Or it may be exerpted to enrich courses in history, government and the social sciences. The fundamental themes, key ideas, and learning opportunities will assist educators at all levels in preparing curriculum guidelines, resources, and support materials for programs in geographic education. The suggested learning opportunities assume that growth in both scope and sequence will occur within and across the grades.

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The Project

In 1984 a joint committee of the National Council for Geographic Education and the Association of American Geographers published the *Guidelines for Geographic Education: Elementary and Secondary Schools*. This 28 page booklet was designed to inform educational decision makers about the need to institute, update, and enrich geography programs in America's schools. The guidelines address the growing problem of geographical illiteracy in our society and provide a blueprint for developing a sequence of programs that will improve the the teaching and learning of geography in the elementary and secondary schools.

Acting upon the favorable public response to the *Guidelines*, the National Council for Geographic Education (NCGE) and the Association of American Geographers (AAG) agreed to combine their efforts to implement the recommendations of the *Guidelines* nationwide. The American Geographical Society (AGS) and the National Geographic Society (NGS) joined with the NCGE and the AAG to form the Geographic Education National Implementation Project (GENIP) on July 1, 1985. The GENIP is a national project to improve the status and quality of geographic education in grades K-12 in the United States. This publication is one of the GENIP activities designed to implement the *Guidelines* by promoting geographic education.

Geography in Grades 7-12: Themes, Key Ideas, and Learning Opportunities

This volume presents a framework for developing courses of study in geography for grades 7 through 12. Also presented are several sample courses illustrating how the framework may be used. The fundamental themes in geographic education provide the basis for the framework. The suggested learning opportunities are designed to incorporate various levels of thinking. These opportunities direct attention to the knowledge, skills, and attitudes that result in a total geography course.

FUNDAMENTAL THEMES IN GEOGRAPHIC EDUCATION

The fundamental themes presented in the Guidelines for Geographic Education: Elementary and Secondary Schools (Joint Committee on Geographic Education, 1984) direct the selection of content and topics that are of concern to teachers of geography and social studies at all levels. The themes identify the core of school geography and are comprehensible and challenging in their application. The fundamental themes of geography represent a structure that is supported by professional geographers and teachers in the United States and other countries.

The fundamental themes for geographic education are presented below.

LOCATION: Position on the Earth's Surface.
Absolute and relative location are two ways of describing the position of places on the earth's surface. In many situations it is important to identify absolute locations as precise points on the earth's surface. For instance, determining the precise position of fresh water supplies is critical to filling the world's fresh water needs. Determining relative location, the position of one place with respect to other important places, is equally significant. If, for example, the position of fresh water supplies with respect to potential water users is too remote, then it will not be feasible to use those supplies.

PLACE: Physical and Human Characteristics.
All places on earth have distinct physical and human characteristics that give them meaning and distinguish them from other places. The physical characteristics derive from the geological, hydrological, atmospheric, and biological processes that produce landforms, water bodies, climate, soils, natural vegetation, and animal life. Human ideas and actions also shape the character of places. Places differ in their population size and density, as well as in their settlement patterns, architecture, kinds of economic and recreational activities, and transportation and communication networks. Places can be distinguished from each other by the ideologies and philosophical or religious tenets of people who live there, by their languages, and by their forms of economic, social, and political organization. Taken together, the physical and human characteristics of places provide keys to identifying and interpreting both basic and complex interrelations between people and their environments, and between different groups of people.

RELATIONSHIPS WITHIN PLACES: Humans and Environments.
All places on the earth have advantages and disadvantages for human settlement. High population densities have developed on floodplains, for example, where people take advantage of level land, fertile soils, water resources, and opportunities for river transportation. By comparison, population densities are usually low in deserts. Yet floodplains are periodically subject to severe damage, and some desert areas have been modified to support large populations.

People modify and adapt to natural settings in ways that reveal their cultural values, economic and political circumstances, and technological abilities. The resulting human-environment relationships have consequences for people and for the environment which produce a worldwide mosaic of patterns dependent upon culture and environment. Each place has its distinctive patterns of human-environment relationships.

Introduction

MOVEMENT: Humans Interacting on the Earth.
Human beings are unevenly distributed across the face of the earth. Some live in rural areas and others live in towns, villages, or cities. People interact with each other through travel and communications between and among places. They rely upon products, information, or ideas that come from beyond their immediate environment.

The most visible evidences of global interdependence and the interaction of places are the transportation and communication systems that link the world. These systems are used to help people interact with other people and places almost every day of their lives. Interaction changes as transportation and communication technologies change. The geographical and societal changes that come about are an important result of the movement of people, ideas, and products.

REGIONS: How They Form and Change.
The basic unit of geographic study is the region. A region is any area that displays unity in terms of selected criteria. Regions may show the extent of political power, such as nations, provinces, countries, or cities. Some regions are defined by a single characteristic, such as the governmental unit, language group, or landform type; others, by the interplay of many complex features.

Region is a concept used to examine, to define, to describe, to explain, and to analyze the human and natural environments of the Earth. There are numerous ways to define meaningful regions, depending on the issues or problems being considered.

Regions provide a context for studying contemporary issues and current events. They may be an intermediate step between our knowledge of local places and our knowledge of the entire planet. Regions are used in many ways in geographic education. They define convenient and manageable units upon which to build our knowledge of the world.

SKILLS IN GEOGRAPHIC EDUCATION

For the purposes of this document, the aims for cognitive skills development are described in two broad categories: shared interdisciplinary skills and geographic skills. Shared skills are those for which both the teacher of geography and teachers of other subjects have responsibility: problem solving, thinking, inquiry, numeracy, and communications. Geographic skills are those for which the geography teacher has the major responsibility. Geography skills entail processes such as asking the right kinds of questions and being able to use geographic data in answering those questions; for example, maps, charts, graphs and tables, diagrams, and models. Teachers must ensure that cognitive and geographic skill development are planned for every course.

Asking Geographic Questions.
Geography is distinguished by the kinds of questions it asks – the "where?" and "why there?" aspects of an issue or problem. It is important for students to develop and practice skills in asking such questions and researching answers or suggestions that offer an explanation to these questions.

Acquiring Geographic Information.
These skills include being able to identify locations using grid systems, making observations and acquiring information in the field, and obtaining and organizing geographic information from maps, tables, graphs and photographs.

Presenting Geographic Information.
These skills involve an ability to prepare maps, tables, and graphs, and make an organized, coherent written or oral presentation.

Interpreting and Analyzing Geographic Information.
Interpreting and analyzing involves the ability to discover what a particular map, table, or graph says or implies about the question or issue being investigated. This includes interpreting trends portrayed on a line graph and analyzing the relationships between information on two or more maps.

Developing and Testing Hypotheses and Geographic Generalizations.
Skills in this area require an ability to make inferences based on information presented on maps, tables and graphs, and in narrative form. It includes the ability to test hypotheses regarding geographic patterns and to extend the observation of recurring patterns to general statements.

USE OF THIS DOCUMENT

Geography in Grades 7-12: Themes, Key Ideas, and Learning Opportunities may be used as a model for identifying and organizing learning activities, units, and courses. The fundamental themes, key ideas, and learning opportunities will assist educators at all levels in preparing curriculum guidelines, resources, and support materials for programs in geographic education. The suggested learning opportunities assume that growth in both scope and sequence will occur within and across the grades.

Geographic education at grade levels 7-12 is based upon the knowledge of students' cognitive, psychological, and social development in relationship to geographic understanding. The rich and varied life experiences of students should be used as much as possible to illustrate and develop the learning opportunities selected for study. Use of the learning opportunities requires that they be adapted to meet local objectives at particular grade levels and in ways which meet the needs of students with varying experiential backgrounds, differing languages, and abilities.

The sequence of fundamental themes does not imply a preferred order for instruction. However, the first two, Location and Place, are the foundation for observation in geography; Relationships Within Places, Movement, and Regions provide the framework for geographical analysis. The fundamental themes are closely interrelated. One or several may be explored in geographic study. However, an adequate geography course provides opportunities for students to study how each fundamental theme contributes to the overall understanding of geography.

This document is designed for use across grades 7-12. The teacher utilizing it as a resource will need to determine which learning opportunities are appropriate for the grade level being taught.

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Introduction

The committee wishes to extend its sincere appreciation to the contributors who spent time and effort in assessing this material.

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FRAMEWORK OVERVIEW

Theme

Location: Position on the Earth's Surface

Key Ideas

I. Location of places can be described using relative terms.

- A. Compass directions or time/distance may be used to describe relative location.
- B. Relative location may reflect the perspective of an individual or group at a particular place or time.

II. Location of places can be described using formal reference systems.

III. Location can be an analytical tool.

- A. Reasons can be identified for the location of places.
- B. People make decisions about location.

Theme

Place: Physical and Human Characteristics

Key Ideas

I. Places have physical characteristics.

- A. Physical characteristics include the lithosphere, hydrosphere, atmosphere, and biosphere.
- B. Physical characteristics result mainly from natural processes.
- C. Natural processes are parts of global systems.

II. Places have human characteristics.

- A. Human characteristics include population.
- B. Human characteristics include culture.
- C. Human characteristics are parts of global patterns.

III. Places can be described in different ways.

- A. Places can be represented by data and narrative.
- B. Places can be represented graphically.
- C. People's descriptions of places reflect their values, attitudes, and perceptions.

Theme

Relationships Within Places: Humans and Environments

Key Ideas

I. Relationships within places include how people interact with the environment.

- A. People interact with the environment to obtain a variety of resources that meet their needs and wants.
- B. Distribution of resources varies from place to place.
- C. People perceive the environment in different ways.

II. Relationships within places include how people adapt to, or modify, the environment.

- A. People adapt to, or modify, the environment in different ways.
- B. People's adaptations to, or modifications of, the environment are influenced by the characteristics of the environment in which they live.
- C. People perceive environmental modification in different ways.

III. Relationships within places include changes in the environment.

- A. Technology results in changes in the environment.
- B. Environmental change varies from place to place.
- C. Environmental change may influence regional/global systems.

Theme

Movement: Humans Interacting on the Earth

Key Ideas

I. Movement results in patterns.

- A. Patterns are formed by the movement of people.
- B. Patterns are formed by the movement of ideas, products, and capital.
- C. Movement occurs for a variety of reasons.

II. Movement involves linkages.

- A. Linkages occur at a variety of scales.
- B. Linkages involve transportation and communications networks.
- C. Linkages result in diffusion.

III. Movement demonstrates interdependence.

- A. Interdependence occurs at a variety of scales.
- B. Interdependence occurs for a variety of reasons.
- C. Perceptions of interdependence vary.

Theme

Regions: How They Form and Change

Key Ideas

I. Regions are a way to organize information.

- A. Regional boundaries are based on selected criteria.
- B. Regions vary in scale and/or size.
- C. Regional boundaries change as criteria are changed.
- D. Perceptions of regions reflect values, attitudes, and knowledge.

II. A region has common characteristics.

- A. Common characteristics may persist or change.
- B. Common characteristics form general patterns.
- C. Patterns allow analysis of regions.

III. Relationships exist among regions.

- A. Relationships occur at a variety of scales.
- B. Relationships result in global patterns.
- C. Relationships result from physical and human systems.

RATIONALE

A variety of organizational frameworks may be used to develop a geography course. A systematic or topical approach might involve an examination of such subjects as population, economic activities, urbanization, environment, or political geography. A regional approach might involve an examination of such areas as a political region, e.g., a country; a cultural region, e.g., Latin America; or a physical region, e.g., Saharan Africa, Pacific Rim. In planning a course, a teacher might choose to take a systematic or topical approach, a regional approach, or a combination of these two organizational models.

FUNDAMENTAL THEMES IN WORLD GEOGRAPHY

Fundamental Themes in World Geography is presented as a model to illustrate how the framework of Geography in Grades 7-12: Themes, Key Ideas, and Learning Opportunities may be applied to a world geography course. The learning opportunities that are included do not exhaust the full range of possibilities. However, they do represent a broad range of instructional levels across grades 7-12, and teachers will need to select those, or modify others, so that they are applicable to the age and ability levels of a particular grade.

This course has been selected because it is the most common geography course taught in the social studies curriculum at the secondary school level. The course is provided here to illustrate how the development of the fundamental themes, key ideas, and learning opportunities may be adapted to a course in world geography.

The learning opportunities are generally presented as an introductory suggestion, but each may be extended considerably and developed to incorporate higher level thinking. The examples used in the learning opportunities are cited for clarification. Teachers are encouraged to choose others which will highlight the particular world region being studied.

Theme

Location: Position on the Earth's Surface

Key Ideas	Learning Opportunities
I. *Location* of places can be described using relative terms.	
A. Compass directions or time/distance may be used to describe relative location.	• Compile a list of reference books such as an atlas, an almanac, and a gazetteer, which may be useful for locating places. • Define the important terms used to describe location by using a glossary and appropriate reference books. • Indicate the relative location of cities, countries, and regions of the world using cardinal directions. • Identify the location of a country relative to continental position, proximity to water bodies, surrounding countries. • Sketch mental maps of the immediate locale, the school, and a route to school, using the student's experience as the basis for information. Compare shape, size, and features to an actual map of the same area. • Identify the relative location of physical and human features using a variety of maps, globes, aerial photographs, and satellite imagery. • Describe the location of selected major regions, countries, and cities relative to other places, to major physical features, and to the local area in terms of compass direction and distance. Entertain the notion of relative location based on travel time and cost.
B. Relative *location* may reflect the perspective of an individual or group at a particular place or time.	• Conduct interviews to obtain data on how people refer to locations of places. • Evaluate the accuracy of descriptions for a selected location offered by two different persons at two different relative locations. • Discuss reasons for names given to locations which reflect the point of view of a particular group at a particular place or time, e.g., Midwest, Outback, Far East. • Compare people's perceptions of time/distance and cost/effort through history, given different modes of travel. • Collect, display, and discuss maps from different media that demonstrate relative location, e.g., stores, malls, countries to which tourists travel.

II. *Location* of places can be described using formal reference systems.

- Describe several reference systems which can be used to describe locations, e.g., the grid, street addresses.
- Give examples of locations which can be described by a reference system.
- Define important terms used to describe absolute location.
- Construct and label a grid on which key global reference points such as the Equator, the Prime Meridian, and the International Dateline are identified.
- Identify absolute location of places using latitude and longitude coordinates, e.g., major cities, natural disaster and natural resource sites.
- Describe the location of places using the global system of Time Zones.
- Construct a grid for observing, gathering, and recording data, e.g., a seating chart, the location of rooms in a building.
- State the grid coordinates of features near the school using a local street or road map.
- Identify the location of places using a grid, e.g., number/letter, number/number.
- Locate different places using a geo-database with a computer.

III. *Location* can be an analytical tool.

A. Reasons can be identified for the *location* of places.

- Trace the choices for residential location made by family members and other relatives for the past two generations. Note the reasons for the choices.
- Map the locations of the world's largest cities prior to, and after, 1950. Analyze the reasons for choosing particular sites, e.g. transportation, need for resources, and technology.
- Suggest reasons for the location of a student's school, the town, a fastfood restaurant, a grocery store.

B. People make decisions about *location*.

- Research the local government ordinances which permit or restrict the location of different activities within an area.
- List the geographical factors which influence the location of different places or commercial activities.
- Conduct a simulation exercise using maps to examine the location of a new economic activity in the community, e.g., a shopping mall, a landfill site.
- Classify a list of reasons to explain the location of a place, e.g., a city, an industrial plant, a commercial business.

- Compare the factors which influence the selection of a location for a specific activity, e.g., by an individual for a homesite or by a large company for a new manufacturing plant. Note differences and similarities.
- Cite local examples of location decisions that reflect the values, attitudes, and perceptions of the residents, e.g., waste disposal.
- Identify, on a map, places that have a strategic global location. Explain how they affect political decisions, e.g., Panama Canal, Strait of Hormuz.

Theme

Place: Physical and Human Characteristics

Key Ideas	Learning Opportunities
I. *Places* have physical characteristics.	
A. Physical characteristics include the lithosphere, hydrosphere, atmosphere, and biosphere.	• Define and illustrate terms used to describe physical characteristics of places, e.g., landform, coastline, soils, drainage systems, flora, and fauna. • Compare and contrast the physical characteristics of places in different parts of the world, e.g., places in mountains and plains, in humid and dry areas, hot and cold areas.
B. Physical characteristics result mainly from natural processes.	• Describe and give examples of natural processes associated with the lithosphere, hydrosphere, atmosphere, and biosphere. • Describe relationships among natural processes, e.g., effect of climate on natural vegetation, effect of vegetation on soils, and control of erosion. • Cite examples of how places can be changed or destroyed as a result of natural processes, e.g., geologic processes, catastrophic events.
C. Natural processes are parts of global systems.	• Distinguish between geologic processes which operate over long time periods and other natural occurrences which have relatively brief time periods. • Explain how the hydrological cycle operates and how elements of it vary from place to place. • Construct and compare climate graphs for selected places and suggest reasons for similarities and differences in the data. • Describe and account for major global climate patterns. • Map the global circulation systems for the atmosphere and oceans and describe how they are related.

II. *Places* have human characteristics.

A. Human characteristics include population.

- Describe, using data, population growth, size, density, and distribution at different places.
- Map ways in which population density varies in relation to resources, urban and rural places, and agricultural land use.
- Define the terms overpopulation, underpopulation, and population pressure.
- Construct and analyze population pyramids for different places and make inferences and predictions based on the data.
- Note how factors of demographic change (birth rate, death rate, immigration, and emigration) help give places distinct characteristics.
- Analyze statistics that show how places differ in their human characteristics, e.g., per capita income, mortality rates, unemployment rates, and other social or economic indicators.
- Evaluate the strengths and weaknesses of Gross National Product (GNP) and other social indicators in determining human characteristics.
- Develop awareness of the nature of values that affect family size, population growth, and distribution.

B. Human characteristics include culture.

- Identify and compare distributions of cultural characteristics, e.g., language, religions/belief systems, political systems, economic systems, social institutions.
- Map and describe cultural characteristics of ethnic neighborhoods or settlements in your area.
- Examine relationships between institutions and cultural characteristics of places which result in cooperation or conflict between ethnic groups, races, and countries.
- Describe how the cultural landscape and sequent occupance are expressions of human characteristics of place.
- Describe how legacies of the past may affect present human characteristics of places, e.g., wealth and poverty, land tenure, exploitation, colonialism, and independence.

C. Human characteristics are parts of global patterns.

- Define terms associated with the human characteristics of places, e.g., foods, language, religion, celebrations, beliefs, music, architecture, technology, medicine.
- Describe ways in which people of a nation borrow and loan cultural characteristics.
- Demonstrate global distribution of human characteristics using maps and diagrams.

- Identify and analyze several global processes of diffusion which have had major effects on the character of places.
- Explain cultural identity and cultural pluralism of places. Give examples.
- Identify human characteristics of a place which are the result of acculturation, e.g., Spanish culture in Middle and South America and the United States Southwest, Hindu and Muslim culture in Southeast Asia.

III. *Places* can be described in different ways.

A. *Places* can be represented by data and narrative.

- Read stories, poems, or other narratives that describe a particular place.
- Describe the global locations of places or regions through narrative descriptions of the following: major water boundaries, neighboring countries, hemisphere or continental location, distance and direction from major countries and cities, latitudinal comparisons with other countries or regions.
- Work in groups to collect survey data about the local neighborhood. Present the results in different ways.
- Maintain a field journal of places visited.
- Collect field information through the use of surveys, e.g., a survey of local street traffic.
- Collect and correlate field information, test hypotheses and make generalizations, and discuss how to apply the findings through the use of maps, tables, and graphs.
- Gather information about places from statistical sources, aerial photographs, satellite images, three-dimensional models, and geographical information systems (GIS) using computers.
- Observe and summarize primary and/or secondary data from topographical maps, charts, graphs, statistics, and aerial photographs.

B. *Places* can be represented graphically.

- Identify examples of graphic representations of selected places.
- Correlate information from various media and transform the primary data to visual forms, e.g., map, graph, sketch.
- Analyze TV/film/video portrayals of place characteristics. Judge the accuracy of the imagery and impressions of the place. Determine how to be a critical viewer of visual materials.
- Map physical and human characteristics of places, using a variety of symbols and colors.

- Graph human or physical characteristics of places, e.g., population characteristics, climate graphs, land use classification.

C. People's descriptions of *places* reflect their values, attitudes, and perceptions.

- Identify and assess values, attitudes, and perceptions of people revealed in poems, stories, music, landscape painting, photography, and TV/film/video.
- Compare historical and contemporary perceptions people have of the same place using landscape paintings, photographs, and various kinds of narrative.
- Prepare a script for a slide or video presentation that describes the values a particular place exemplifies for a cultural group.
- Write stories or poems about a place that incorporate values, attitudes, and perceptions that groups hold.

Theme

Relationships Within Places: Humans and Environments

Key Ideas

Learning Opportunities

I. *Relationships* within places include how people interact with the environment.

A. People interact with the environment to obtain a variety of resources that meet their needs and wants.

- List and categorize those needs and wants which are provided by the environment.
- Locate major ecosystems and resources on maps.
- Differentiate between categories of resources such as renewable and non-renewable, natural and manufactured, and human and non-human.
- Describe how different environments represent opportunities and constraints depending upon culture and levels of technology.

B. Distribution of resources varies from place to place.

- Study maps showing the global distribution of selected resources.
- Identify places with abundant resources and others lacking resources.

C. People perceive the environment in different ways.

- Identify resources that have changed over time, e.g., medicines, minerals. Suggest reasons for the changes.
- Identify resources that have remained important over time, e.g. gold. Suggest reasons for their importance.
- Map several resources that vary from place to place, e.g., housing materials, food, animals. Form and test hypotheses to explain the reasons for the variation.
- Study a map of the world's major forests, identify patterns of deforestation, and explain why different groups of people view forests in different ways.

- Compare differences in the ways that people live in similar environments in various parts of the world.
- Evaluate the statement, "Resources are culturally determined."

II. *Relationships* within places include how people adapt to, or modify, the environment.

A. People adapt to, or modify, the environment in different ways.

- List ways in which people adapt to an environment through the production and use of clothing, food, and shelter.
- Demonstrate how people may adapt to the environment in ways that reveal their cultural values, economic/political systems, and technological levels.
- Suggest ways that people modify the environment and in so doing reveal their cultural values, economic systems, and technological levels.
- Cite examples of how different cultural groups see different potentials and/or constraints in similar physical environments.

B. People's adaptations to, or modifications of, the environment are influenced by the characteristics of the environment in which they live.

- Compare maps showing how people use different environments and how the environment has influenced land uses or how the environment has been altered.
- Identify present and future uses for the resources of the lithosphere, hydrosphere, atmosphere, and biosphere.
- Develop case studies of different regions of the world using maps, charts, graphs, pictures, and narrative which illustrate a variety of land uses/economic activities, e.g., hunting/gathering, rice culture, or urban/industrial activity.

C. People perceive environmental modifications in different ways.

- Identify human modifications of the physical environment that have had intended as well as unintended effects.
- Cite local examples of environmental modifications where the effects were intended or unintended, e.g., flood control, farming and erosion, urban sprawl.
- Construct maps/diagrams which demonstrate consequences of human modification of the environment, e.g., deforestation, air pollution, construction of dams, acid precipitation, ozone destruction, and global warming.
- Evaluate present and future uses for resources in the lithosphere, hydrosphere, atmoshere, and biosphere.

III. *Relationships* within places include changes in the environment.

A. Technology results in changes in the environment.

- Describe changes in the environment resulting from the use of tools and technology.

- Suggest ways in which the use of technology broadens opportunities and reduces constraints of the environment.
- List ways that use of technology results in consequences for the environment which may be planned and anticipated, or unintentional and unexpected.
- Analyze case studies of technological changes that have had intended or unintended outcomes, e.g., automobiles, freeways, TNT, nuclear energy.
- List examples of applications of technology which have given people greater control over the environment, e.g., irrigation, air conditioning, and automobiles.
- Identify environmental problems which have resulted from increasing use of technology, e.g., endangered plant and animal species.

B. Environmental change varies from place to place.

- Identify examples of uneven distribution of technology, e.g., traditional and mechanized farming.
- Analyze maps to test generalizations about how the availability of technology affects the standard of living and quality of life.
- Debate whether developing nations should be given the technology to make rapid changes to their environments.

C. Environmental change may influence regional/global systems.

- Develop case studies which demonstrate the impact of technology on the environment and consider generalizations which may have global applications.
- Research recent news stories concerning environmental problems and identify contributing factors and possible solutions related to the use of technology.
- Demonstrate how an environmental change in one part of the world can affect places in other parts of the world through writing, map work, or dramatization.
- Write a statement for a predicted environmental change, including positive, negative, and negligible impacts and possible long-term consequences.

Theme

Movement: Humans Interacting on the Earth

Key Ideas

Learning Opportunities

I. *Movement* results in patterns.

A. Patterns are formed by the *movement* of people.

- Define terms which describe the movement of people, e.g., commute, migrate, travel.

- Examine maps which show patterns of population distribution and change resulting from movement, e.g., people leaving areas of drought, ethnic enclaves.
- Map and analyze the spread of diseases, using medical/public health data, e.g., influenza, AIDS, intestinal disorders.
- List examples of patterns that are a consequence of population movement, e.g., cities along ocean fronts or other waterways, suburbs on the fringes of large cities.

B. Patterns are formed by the *movement* of ideas, products, and capital.

- Define terms which describe the movement of ideas, products, and capital, e.g., diffusion, linkages, systems.
- Identify patterns which result from diffusion of ideas by means of communications systems, e.g., radio, television, newspapers, satellites.
- Identify patterns in which transportation results in the diffusion of products, e.g., oil, food, raw materials.
- Identify patterns that are formed by the distribution of capital, e.g., plantation agriculture, natural resources exploration, stock market trading.
- Recognize the ways that various techniques and strategies are used to enhance diffusion of ideas.
- Study maps which show the diffusion of ideas, products, and capital and develop generalizations regarding their patterns, e.g., democratic government, coffee, transactions of a multinational corporation.
- Map the locations and diffusion of major ideologies, including political and religious/belief systems.
- Map the movement of major economic systems, e.g., planned and capitalist economies, trade patterns.

C. *Movement* occurs for a variety of reasons.

- Explain, in terms of "push-pull" factors, the major population movements that may occur among places.
- Prepare explanations for the patterns of movement or a flow map of investment, marketing, and consumption of a mineral resource, energy resource, food crop, or industrial crop.
- Develop generalizations about movement by making a flow map that traces the movement of payment from the consumer of a finished product back to its original source, e.g., balance of payments between countries.
- Suggest reasons for movement by studying maps or reading narration of the routes by which people, animals, beliefs, ideas, technology, or other phenomena have been disseminated.
- Identify examples of physical barriers to movement, e.g., mountains, oceans, Berlin Wall.

- Identify physical characteristics which caused movement of people, e.g., Dust Bowl, potato famine, Ice Age. List reasons why some people moved while others stayed.
- Identify examples of cultural barriers to movement, e.g., language, customs, political ideologies. Suggest how these may differ over space and time.
- Identify examples of economic barriers to movement, e.g., tariffs, quotas, currency differences.
- Identify examples of legislative barriers to movement, e.g., immigration quotas, political systems.
- Cite examples of ways that people have overcome barriers to the spread of ideas.
- Describe ways that barriers can prevent the movement of people, goods, and ideas.

II. *Movement* involves linkages.

A. Linkages occur at a variety of scales.

- Develop maps showing major trade routes/patterns, e.g., historical, current.
- Map the movements of several specific products between places, e.g., industrial, food, and mineral products at local, national, and international levels. Suggest reasons for the movements.
- Map changes in the quantity of trade between places, e.g., Middle East and Japan (1950 and the present).

B. Linkages involve transportation and communications networks.

- Map routes of several products for different types of transportation, e.g., oil tanker, pipeline.
- Discuss consequences of a breakdown in a major linkage, e.g., strike, natural disaster.
- Describe, using charts or graphs, how changes in transportation/communications technology influence the rates at which people, goods, and ideas move from place to place, e.g., steamships, airplane.
- Explain ways in which advances in technology have reduced the travel time between places and contributed to the spread of products and ideas.
- Evaluate the importance of transportation networks as a factor in contributing to the level of economic development in different regions.
- Describe how communications technology influences the flow of ideas and resources from place to place.
- Evaluate the importance of different types of communications networks as factors contributing to the level of economic development in selected regions.

- Compile lists of formal and informal networks, e.g., family trees, criminal networks, occupation networks, ethnic networks, underground economies, baseball leagues.
- Explain the impact of different economic and political alliances on the movement of products and ideas, e.g., Free Trade Agreement, European Community, 1992, Council for Mutual Economic Assistance (COMECON).

C. Linkages result in diffusion.

- Identify places where communications linkages diffuse news, e.g., Radio Free Europe, BBC World News Network.
- Identify countries which have minimal contact, e.g., Libya and the United States. Evaluate reasons.
- Collect time and cost data, map the data, and evaluate the comparative advantages of telephone, mail, and telex/fax linkages between places.
- Draw diagrams and maps that illustrate the diffusion of plants, products, clothing styles, inventions, information, or ideas throughout the world.

III. *Movement* demonstrates interdependence.

A. Interdependence occurs at a variety of scales.

- Identify several international and regional alliances, social, economic, and political, and describe how they result in interdependence, e.g., European Community, Organization of Petroleum Exporting Countries(OPEC), Warsaw Pact, General Agreement on Tariffs and Trade.
- Compile and map a list of products which originated more than fifty miles from the local area, e.g., foods, clothing, appliances.
- Compile and map a list of ideas which originated more than fifty miles from the local area in publications, music, radio, television.
- Compile and map a list of human contacts who originated more than fifty miles from the local area through relatives, friends, and sales people.
- Construct flow charts and maps which illustrate the direction and scale of trade among and between places, e.g., iron ore, chromium, rice, wheat, fresh milk.

B. Interdependence occurs for a variety of reasons.

- Use maps and graphs to show that interdependence may be varied or constant, and strong or weak, e.g., oil embargo, trade sanctions.
- Suggest reasons why products from one area are purchased in another, e.g., electronics from Japan, palm oil from Malaysia.
- Describe why products are exported and imported, e.g., raw materials, finished products.

- Speculate on the consequences to the local area if all international transportation and communications were to cease.

C. Perceptions of interdependence vary.

- Identify instances where interdependence is lacking because of issues which are influenced by perceptions one group holds of another, e.g., language, religion, economic systems.
- Introduce case studies which demonstrate how interdependence leads to issues of global significance, e.g., environmental pollution, economic indebtedness, arms control, isolation of South Africa.
- Identify and analyze reasons for population migration from one place to another for perceived greater opportunity, e.g., economic, human rights, political freedoms, environmental refugees.
- Search the media for examples of ways in which perceptions influence movement both by encouraging or hindering diffusion of products or ideas, e.g., food preferences, "buy American" products.

Theme

Regions: How They Form and Change

Key Ideas

Learning Opportunities

I. *Regions* are a way to organize information.

A. Regional boundaries are based on selected criteria.

- Explain why regions are basic units of geographic study.
- Recognize that regions are mental constructs reflecting chosen criteria.
- Give reasons why dividing the world into regions helps make geographic investigation possible.
- Define regions based upon physiographic, vegetation, political, economic, or administrative criteria.
- Delimit regions and explain the chosen criteria using maps.
- Identify major regions of the world and list the criteria that are used to differentiate each region from the others.
- Identify major subregions of larger world regions, e.g., the United States, Canada, Mexico, and Central America comprise North America; Canada and the United States comprise Anglo America.
- List several criteria that are used to determine the major subregions of larger world regions.

- Identify and map several different regions based on local criteria, e.g., daily travel time, costs, physiography, climate.
- Create a map based on your own criteria and personal interest, e.g., recreational activities.
- Evaluate several regions in order to determine if they help reduce the complexity of the earth's surface.

B. *Regions* vary in scale and/or size.

- Cite examples of regions of varying scales, e.g., local, national, or global.
- Explain how the scale of a regional study might present limitations or advantages.
- Sketch regions on maps at a variety of scales.
- Create categories and map selected information. Compare individual maps.
- Examine and map the way people in agriculture divide fields into various kinds of uses representing regions on a small scale.
- Compare and contrast economic developments and land use in large regions, e.g., Tennessee Valley, London dock lands, Negev Desert, Nile Valley.

C. Regional boundaries change as criteria are changed.

- Depict geographic regions on outline maps using different criteria, e.g., GNP per capita, religion.
- Identify and evaluate criteria that may be used to define different regional divisions for the same land area, e.g., Brazilian rainforest, Amazon River basin.
- Establish the idea that most regional boundaries usually are broad transitional zones rather than clearly delineated differences, e.g., rainforest to tropical savanna, tropical savanna to steppe.
- Discuss the importance of the coherence between internal characteristics as a factor in establishing regions and boundaries.
- Illustrate, by means of a graph or a map, a change in the boundary of a region in light of new data or altered criteria.
- Determine how modifications within a specified region might occur, e.g., conversion of a subregion to improve agricultural activity or to create urban complexes.
- Demonstrate, by using maps, that changes in the elements of a region may alter boundaries, e.g., population, environment, and political, economic, and cultural factors.
- Identify different regions that may overlap one another and use a Venn diagram to illustrate why an area with certain characteristics might be included in more than one region.

- Identify the impact that current and perhaps future technologies will have on determining regions, e.g., food-producing potential, health conditions, acid precipitation, ozone depletion.

D. Perceptions of *regions* reflect values, attitudes, and knowledge.

- Conduct a survey within the class, school, or community to determine and analyze understanding of selected common regional terms, e.g., the South, the Far East, the suburbs.
- Make individual maps of a country based on a written description of its regions and compare and evaluate the outcome in terms of similarities and differences.
- Describe issues that may arise from increasing population in a region, e.g., transportation, education, housing, hunger, disease, and unemployment.
- Explain why human uses and abuses of the environment in a region are one measure of attitudes toward that region.
- Explain why land uses in a region may result in negative consequences for humans, fauna, and flora.
- Describe points of view held by two or more people on a topic or issue pertaining to a region.
- Evaluate national development objectives that reflect values and attitudes, e.g., Amazon Basin, Singapore.
- Define and cite examples of regional titles that reflect stereotypes and ethnocentrism, e.g., "dark continent," "sweltering Tropics," Middle East.
- Explain ways that a region's characteristics, both physical and human, may influence personal attitudes, lifestyle, employment opportunities, and quality of life.
- Develop an appreciation of racial, ethnic, cultural, and religious diversity of a region.
- Identify, map, and evaluate criteria used to define regions as developed and developing, have and have-not.
- Explain how the cultural, economic, and political aspirations of ethnic and national groups affect regions, e.g., Shiites and Sunnis, Vietnamese.

II. A *region* has common characteristics.

A. Common characteristics may persist or change

- Demonstrate that changes within a region occur during any given period of time, e.g., migrations, industrialization, diffusion.
- Locate examples of regions that are defined mainly by a certain function, e.g., Silicon Valley.
- Evaluate historical and contemporary maps of the same region, e.g., the Cotton Belt from 1800 to the present, a major metropolitan area.

- Study examples of changes in one criterion of a region that may affect the other criteria of the region, e.g., population, environment, settlement, livelihood, political organization, culture.
- State the factors that give character to a region, those factors that tend to unify a region, and those factors that tend to bring disunity.
- Examine factors that may influence change and create dynamism in regions, e.g., migration, technology, and capital investment.
- Suggest alternatives for the future based on the investigation of current information and trends in regions.
- Predict why future growth and development may or may not occur in a region, e.g., Pacific Rim, ECC.
- Investigate the characteristics of two or more food producing regions, e.g., subsistence farming, commercial grain growing.
- Consider how the sequent occupance of an area results in the establishment of cultural identity and leads inhabitants both to define and to protect their boundaries.

B. Common characteristics form general patterns.

- Demonstrate that a region may include a combination of land uses and connecting systems that enable people to live and work.
- Search for general principles and patterns common to many regions, including an understanding of the processes behind the formation of the patterns.
- Develop general statements regarding patterns observed in several different global regions. e.g., Islamic World, Western Europe.
- Evaluate the extent to which climatic patterns characteristically describe large regions in general terms.
- Define a homogeneous or formal region as displaying one or more common characteristics throughout an area, e.g., a physiographic region, a forest biome.
- Define a functional or nodal region in economic or cultural terms, e.g., the trade area of a settlement, the circulation zone of a newspaper.
- Examine a variety of maps to identify both homogeneous (formal) and functional (nodal) regions.
- Identify specific elements as criteria that may be used to characterize a region, e.g., physical, cultural, political, economic criteria.

C. Patterns allow analysis of *regions*.

- Identify the social and economic goals and priorities of a local planning region.
- Evaluate the possible effects of regional disparities in a country/continent/area, e.g., urban, rural.
- Examine patterns formed by the physical environment, population distribution, social and political variables. Identify the connecting links that hold a region together.
- Combine the component parts of a region in different ways so that patterns and relationships are clarified.

III. Relationships exist among *regions*.

A. Relationships occur at a variety of scales.

- Demonstrate an awareness of the interdependence of all people through reference to a variety of connecting links among regions and peoples around the world.
- Develop maps and graphs to show the relationships within and between regions with respect to time, distance, and modes of transportation.
- Write an essay describing relationships among regions, e.g., neighborhoods to a city, suburbs to a metropolitan area.

B. Relationships result in global patterns.

- Prepare a flow diagram that shows how the production of basic items results in relationships between different regions, e.g., the production of a pencil, the use of spices as food ingredients.
- Map the flow patterns which result when two regions are interdependent due to a particular resource or commodity, e.g., pepper, salt.
- Develop maps and/or graphs of international assistance programs which demonstrate relationships and global patterns among several world regions, e.g., North America to Africa and South America.

C. Relationships result from physical and human systems.

- Identify, using both maps and narrative description, physical systems which illustrate connections among regions, i.e. climatic patterns, watershed/river systems.
- Identify ways in which natural environments form an interdependent web of interacting systems and subsystems within and among regions.
- Identify ways in which humans are part of the natural environment and interact with its systems and subsystems within and among regions.
- Explain how one region is related to other regions and functions interdependently within a larger system of regions.
- Evaluate human systems which result from connections among regions, e.g., treaties, international trade patterns.

FUNDAMENTAL THEMES IN UNITED STATES GEOGRAPHY

Fundamental Themes in United States Geography has been selected to illustrate how the framework, Geography in Grades 7-12: Themes, Key Ideas, and Learning Opportunities, may be applied to a unit such as a country, state, province, or continent. The learning opportunities represent a broad range of instructional levels. Teachers are expected to select those that are applicable to the age and ability levels of a particular grade.

The learning opportunities are generally presented as an introductory suggestion, but each may be extended considerably and developed to incorporate higher order thinking levels.

Theme

Location: Position on the Earth's Surface

Key Ideas	Learning Opportunities
I. *Location* of places can be described using relative terms.	
A. Compass directions or time/distance may be used to describe relative *location*.	• Indicate the relative location of cities, counties, states, and regions in the United States using cardinal directions. • Identify the locations of cities relative to natural features, e.g., landforms and water bodies using maps, globes, and compass directions. • Identify the locations of cities of various sizes. Calculate the travel effort and cost/distance between selected cities. Use intermediate compass directions to state the direction to the selected cities. • Describe the relative distance and location of regions of various types, e.g., environmental, economic, cultural, and political. • Map the location of the United States relative to major boundary waters and neighboring countries.
B. Relative *location* may reflect the perspective of an individual or group at a particular place or time.	• Illustrate perceptions/stereotypes about relative location using mental maps, e.g., Alaska and Hawaii. • Compare and contrast the perceptions of various people regarding distance and direction to different places. • Evaluate how perception of the relative location of the frontier changed in the United States. • Consider how relative location affects perception of a region, e.g., Midwest, South.
II. *Location* of places can be described using formal reference systems.	• Identify the location of states by using degrees of latitude and longitude. • Determine the latitude and longitude of various places, e.g., rural and urban areas, states, and natural features using wall maps, globes, and atlases. • Locate places in the states west of the original Thirteen Colonies using the township and range system of land division. • Determine time differences between places within the United States and between places in the United States and in other countries. • Locate places in urban areas using a street and building number system. • Locate places in rural and urban areas using zip codes and telephone area codes.

III. *Location* can be an analytical tool.

A. Reasons can be identified for the *location* of places.

- Classify reasons for the selection of a site for a hypothetical business or industry. Justify the site selection.
- Determine reasons why industries have particular location patterns, e.g., textiles, iron and steel, film-making, electronics, retailing, government, finance.
- Analyze the characteristics of selected urban and rural places to determine how the importance of a specific location has changed at different times.
- Map the locations of early cities/settlements and identify the parent country. Analyze the role of cultural/ethnic influence on choosing a location.

B. People make decisions about *location.*

- Identify location decisions which families make when moving to a new community.
- Interview people in a community, such as government leaders and business people, who make decisions about locations. Assess the impact of those decisions.
- List ways in which location decisions reflect values, attitudes, and perceptions of people in both the past and present, e.g., Washington, D.C.

Theme

Place: Physical and Human Characteristics

Key Ideas

Learning Opportunities

I. *Places* have physical characteristics.

A. Physical characteristics include aspects of the lithosphere, hydrosphere, atmosphere, and biosphere.

- Define lithosphere, hydrosphere, atmosphere, and biosphere and identify aspects of each.
- Compare and contrast the physical characteristics of neighborhoods, communities, cities, and states in different regions of the United States.
- Record data daily to construct a chart showing temperature, precipitation, and estimated cloud cover for one month.
- Construct and compare climate graphs for different locations in the United States.
- Compare the location of natural vegetation on a thematic map to maps of climate and/or soil.

B. Physical characteristics result mainly from natural processes.

- Examine maps to determine the physical characteristics of places, e.g., soils, landforms, water bodies, streams, and rivers.

- Identify the relationships among climate, natural vegetation, and soils in different places in the United States using maps.
- Examine how altitude, slope, and exposure to natural elements shape the physical characteristics of places.
- Examine how and why humans have helped to shape the physical characteristics of places, e.g., Mt. Rushmore, TVA.

C. Natural processes are parts of global systems.

- Identify global natural processes, e.g., erosion and deposition, atmospheric circulation.
- Compare climate patterns and graphs for the United States with climate data for other world regions and make generalizations about global climate patterns.
- Describe ways in which global natural processes contribute to environmental problems, e.g., droughts and floods.
- Describe regional/global environmental problems that are caused by human activities, e.g., acid precipitation, waste disposal, desertification, nuclear radiation, ozone depletion.

II. *Places* have human characteristics.

A. Human characteristics include population.

- Map data on population distribution, density, and size of the ten largest and ten smallest states in the United States.
- Map the locations of the ten largest cities in the United States. Give reasons for the locations of these cities.
- Map social, economic, and political characteristics of the population, e.g., education levels, employment rates and mean income, voter registration by party or proportion of eligible voters who voted in a recent election.
- Analyze changes in the population of places during the last thirty years.

B. Human characteristics include culture.

- Define and identify ethnic groups and elements of the cultural landscape associated with them.
- Identify ethnic groups in a place and trace their origins and their family ties to other places, e.g., indigenous people, Greeks.
- Identify distinctive characteristics of the cultural landscape of towns, cities, and different regions, e.g., New York, New England, the South, Hawaii.
- Analyze patterns of popular culture associated with different places in the United States, e.g., music, art, sports, food.
- Plan a national search for a college, university, or a job which includes evaluation of the physical and human characteristics of places.

C. Human characteristics are parts of global systems.

- Identify the locations of principal religions in the United States and other countries.
- Identify the locations of principal languages in the United States and other countries.

III. *Places* can be described in different ways.

A. *Places* can be represented by data and narrative.

- List different data that may be used to represent physical and human characteristics of places, e.g., GNP/capita, precipitation tables, population growth rates, language, and religion.
- Prepare a table to represent the physical or human characteristics of a place.
- Retrieve and display data using a computer and appropriate software, e.g., spreadsheet, table, or database.
- Prepare a narrative description of a table which describes the characteristics of places.
- Read novels, poems, and songs to obtain information about a place. Compare them to an encyclopedia description.

B. *Places* can be represented graphically.

- List different ways that places can be represented, e.g., maps, graphs, charts, tables, photographs, remote images, TV, film.
- Design a picture display or a mural to illustrate both physical and human characteristics of a place, e.g., city, state, region. Identify aspects of the physical environment needed or used by people.
- Prepare or select a graphic representation that shows the physical and/or human characteristics of a place, e.g., climate graph, topographic map, population pyramid.
- Write a narrative statement that describes and analyzes the information on a graphic representation of a place.
- Prepare a map or graph using a computer and appropriate software.

C. People's descriptions of *places* reflect their values, attitudes, and perceptions.

- Conduct a survey to determine the ten most desirable and ten least desirable states in which to live. Rank and map the results. Draw conclusions about the rankings.
- Discuss why people in different parts of the United States might develop different rankings and maps showing the desirable states in which to live.
- Identify places which have increased or decreased in population. Suggest explanations for the change.
- Identify stereotypic images of places and hypothesize how such images were formed.

- Develop several hypotheses that suggest possible relationships between the amount of information people know about places and their attitudes toward those places. Propose ways to test these hypotheses and form generalizations regarding possible relationships.

Theme

Relationships Within Places: Humans and Environments

Key Ideas	Learning Opportunities
I. *Relationships* within places include how people interact with the environment.	
A. People interact with the environment to obtain a variety of resources that meet their needs and wants.	• Define a resource. Consider how culture, including technology, influences the definition. • Identify the resources which are used by industry in a place, e.g., agriculture, manufacturing. • Examine tourism in different areas to determine the environmental conditions suitable for different segments of this industry.
B. Distribution of resources varies from place to place.	• Describe the distribution of selected resources in the United States using maps. • Speculate about the types of human activities which might be expected in different environmental settings of the United States. Make predictions about land use and compare this to reality. • Compare maps showing natural resources with population distribution; recreational resources with urban population. • Compare and contrast the resource base as viewed by different cultural groups in the United States.
C. People perceive the environment in different ways.	• List activities of Native American cultures which probably occurred as a response to unique qualities of the environment, e.g., basket weaving, buffalo hunting. • Discuss whether or not the same environment placed more restrictions on pre-industrial cultures than on present-day cultures. • Identify qualities of the environment which people value in different places in the United States. • Determine the role of natural features in the development of the American colonies.

II. *Relationships* within places include how people adapt to, or modify, the environment.

A. People adapt to, or modify, the environment in different ways.

- Identify the ways in which outdoor activities reflect seasonal environmental conditions.
- Identify environmental extremes which affect people, e.g., high and low temperatures, lack of or excessive precipitation.
- Identify ways people have altered the environment, e.g., Desert Southwest, urban places.
- Examine modifications to the environment and their consequences, e.g., deforestation, land clearing, highway building, shelter belts.

B. People's adaptations to, or modifications of, the environment are influenced by the characteristics of the environment in which they live.

- Describe the relationships between agricultural land uses and environment, e.g., grazing, grain cropping, tree farming.
- Describe how housing in different areas of the United States is affected by environmental conditions, e.g., insulation, storm windows, tree planting, roof overhangs, wind breaks.
- Locate evidence of human alteration of an environment to accommodate a particular type of agriculture, e.g., Imperial Valley.
- Examine your own geographic environment to locate evidence of changes made by people. Determine the reasons for these changes.
- Investigate the effects of major projects on the environment and on the lifestyle of the people, e.g., TVA in Tennessee, Alabama, and Mississippi; Colorado River Project in the Southwest; Los Angeles Aqueduct; Central Arizona Project.

C. People perceive environmental modification in different ways.

- Cite examples of consequences of environmental modification at a regional or global scale, e.g., acid precipitation, greenhouse effect.
- Cite examples of differing viewpoints on the value of environmental modification at a regional/global scale, e.g., oil exploitation vs. national parks in Alaska.
- Describe modifications of the environment that have had intended effects, e.g., shelter belts, irrigation.
- Describe modifications of the environment that have had unintended effects, e.g., Love Canal, Alaskan oil development.

III. *Relationships* within places include changes in the environment.

A. Technology results in changes in the environment.

- Map the regions of the United States which are reported to be sources of acid precipitation and those which are affected by it.

	• Collect information from news sources about changes in the environment surrounding major facilities, e.g., highways, airports, power stations, urban areas, water evaporation behind dams.
	• Discuss ways in which technological change has resulted in the growth and development of settlements with the subsequent impact on the environment.
B. Environmental change varies from place to place.	• Map the regions of the United States which might be affected by oil spills. Analyze the patterns.
	• Identify and analyze a case study of an area or place that faces major environmental problems, e.g., groundwater contamination, nuclear waste disposal.
	• Examine the problems associated with waste disposal in your community, both now and projected for the future. Suggest possible solutions.
	• Evaluate the impact of acid precipitation on the environment at different places, noting distance from the probable pollution source and the pH level of the water, soil, or bedrock material.
	• List the environmental changes and positive and/or negative benefits of flood control projects, e.g., fish spawning, irrigation, flood damage reduction.
	• Examine ways in which technology has altered shipping facilities in east coast, west coast, and gulf coast ports. Evaluate the effects of the alterations.
C. Environmental change affects regional/global systems.	• Examine the reasons why acid precipitation has become a global problem.
	• Cite examples of the ways that chemicals have had effects upon the environment in the United States and the rest of the world, e.g., pesticide and herbicide contamination of water, global warming of the atmosphere.
	• Debate whether proposed environmental changes in the United States should be evaluated in terms of national impacts or global impacts.
	• Identify environmental changes in the rest of the world that are affecting the United States.

Theme

Movement: Humans Interacting on the Earth

Key Ideas	Learning Opportunities
I. *Movement* results in patterns.	
A. Patterns are formed by the *movement* of people.	• Conduct a survey in the neighborhood to show places of birth for people. Map the data. • Analyze the patterns of movement represented on a neighborhood map which show the number of people born in that neighborhood, at that place, 50-250 miles away, more than 250 miles away, in another country. • Analyze commuter patterns and/or seasonal patterns of movement within the family experience. • Rank the top five countries from which immigrants arrived in the United States a century ago and today. Note how the immigration patterns have changed over time. • Discuss reasons for changing patterns of immigration. • Identify and map internal migration patterns for the United States in 1680, 1780, 1880, and 1980 or 1990 and explain any patterns which emerge. • Construct a choropleth map of the United States to illustrate which states have lost or gained population over the last two decades. Account for the changes. • Prepare an analysis of population changes over the last two decades in different parts of the United States. • Compare past and current patterns of rural-urban migration to suggest reasons for the movement. • Account for recent movements of people from urban to rural areas. • Develop a set of reasons for the large suburban growth in metropolitan areas of the United States.
B. Patterns are formed by the *movement* of ideas, products, and capital.	• Identify important routes for movement of products within the United States. Describe and account for them. • Gather data on regional investment patterns for industry, services, housing, and government in the United States and compare and contrast the regions. • Analyze data on United States investment in at least five foreign countries or regions. • Identify and map at least five countries receiving aid from the United States. Determine why giving this aid is beneficial to the United States.

C. *Movement* occurs for a variety of reasons.

- List reasons why movement between places might occur.
- Identify barriers to movement of people, products, and capital, e.g., national laws, lack of knowledge of places, peoples, cultures, physical features.
- Identify instances where changes in transportation services have resulted in making movement easier or more difficult.

II. *Movement* involves linkages.

A. Linkages occur at a variety of scales.

- Investigate the nature of linkages between rural areas and urban places, between urban places of different sizes, and between urban places of the same size.
- Classify the places linked by different types of highways to compare those linkages with population size. Use a state or national highway map.

B. Linkages involve transportation and communications networks.

- Examine airline schedules for a major airport to determine the number of linkages to other places. Evaluate the effects if air transportation were ended.
- Evaluate the impact of jet air travel on linkages between Hawaii and Alaska and the other forty-eight states.
- Examine old and recent maps of transportation networks in your area to note changes that have occurred. Analyze the reasons for the changes and prepare a narrative description of the changing transportation networks.
- Identify aspects of the communications system which tie places in the United States together and to other places in the world.
- Map the places noted during the evening news on television or radio for one week to identify places that are linked to your locale.

C. Linkages result in diffusion.

- Describe the diffusion of a fad, fashion, or new idea from one part of the United States to another.
- Describe ways that the highway system has increased interdependence between cities and regions of the United States and made it easier for ideas and products to spread to new places, e.g., new gas stations and truck stop companies, fast food restaurants.
- Map the time differences between the different time zone regions of the United States and compare the time required for a news story from New York to reach all fifty states by car, air mail, telephone, and television.
- Identify the relationship between internal migration patterns and transportation development in the United States.
- Analyze the role of the communications system on the diffusion of ideas, fads, and fashions.

III. *Movement* demonstrates interdependence.

A. Interdependence occurs at a variety of scales.

- List ways in which your community is dependent upon the surrounding region.
- List products in your locale that come from the region, as well as from other regions of the United States and map transportation and communication routes from those regions.
- List products in your locale that come from other countries and map routes from those places to your home.

B. Interdependence occurs for a variety of reasons.

- Research several industries in your area to find what they manufacture, source(s) for the materials manufactured, location of markets, and why they are located in your area.
- Map the information from research of local industry to illustrate the interdependence of the region with other regions.

C. Perceptions of interdependence vary.

- Identify and map the location of the major trading partners for the United States and explain their linkages.
- Give examples of interdependence that have led to conflict/cooperation, e.g., oil embargo by OPEC, United States-Canada Free Trade Agreement, European Community.
- Explain the pattern of Colorado River water allocation in the United States Southwest and northern Mexico in order to identify elements of cooperation and conflict.
- List examples of global products imported into the United States. Consider problems that would result if the exporting country halted sales, e.g., petroleum.
- Analyze news articles in order to identify products that enter the United States and which are viewed as causing social and/or economic problems in some regions of the country, e.g., automobiles, drugs.
- Discuss how the movement of people, resources, and products affects the movement of animals, e.g., Alaskan pipeline interfering with reindeer migration.

Theme

Regions: How They Form and Change

Key Ideas	Learning Opportunities
I. *Regions* are a way to organize information.	
A. Regional boundaries are based on selected criteria.	• Organize a chart to portray different types of information about the natural and human environment of a region in the United States, e.g., landforms, vegetation, population density, rural-urban land use, types of agriculture, language/ethnicity, education level. Map the information and compare the results. • Compare maps which show regional production of different products, e.g., cars, peaches, airplanes, oil, grains. • Design a case study which uses both physical and human characteristics in defining a region in the United States, e.g., Great Lakes as a physical and industrial region. • Evaluate a region according to several criteria, e.g., colloquial expressions which reflect stereotypes and may not be consistent with facts, such as Sun Belt, Snow Belt, Rust Belt, Farm Belt, Bible Belt, Oil Patch, Deep South.
B. *Regions* vary in scale and/or size.	• Compare maps of the same region from two different sources as to scale and/or size. • Experiment with various ways in which geographic information may be shown on maps of varying scales. • Rank order a list of criteria which determines regions of varying scales and sizes, e.g., air pollution, noise pollution, groundwater contamination.
C. Regional boundaries change as criteria are changed.	• Compare a landform map and a climate map to show how boundaries change based on different data, e.g., landforms and climates of the Pacific Rim of the United States. • Distinguish among regional maps which illustrate service areas of people in different jobs, e.g., a real estate sales person, a delivery truck driver, a pizza restaurant owner. • Apply the concept of boundary to determine regions based on postal zip codes, telephone area codes, and bus routes.
D. Perceptions of *regions* reflect values, attitudes, and knowledge.	• Give examples of how perceptions of one's own area affect perceptions of other regions in the United States and in adjacent countries.

- Suggest ways in which regions are sometimes represented that reflect stereotypes and ethnocentrism, e.g., ghetto, Chinatown.
- Demonstrate how images of regions reflect both group and individual values and attitudes.

II. A *region* has common characteristics.

A. Common characteristics may persist or change.

- Demonstrate that by altering the criteria used to define a region, its boundaries and shape may change, e.g., changing a spring wheat-producing region of the Great Plains to a winter wheat region.
- Demonstrate that a region may change because the characteristics of the region have changed, e.g., Northeastern states made up a population growth region from 1960 to 1970, but several of the states became a region of decreasing population from 1970 to 1980.
- Design a sequence of maps showing how the boundaries of different regions within the United States have changed since the first settlers arrived, e.g., the West, the South.
- Construct a map showing how the retail sales region for a store might change with a new advertising plan, e.g., the clientele for businesses form a region that may change for different reasons.
- Create a map using regional criteria suggested by students.

B. Common characteristics form general patterns.

- Develop a definition of "region" using the United States as an example.
- Examine different thematic maps of the United States to identify the regions they show based upon common geographical characteristics, e.g., cotton-producing region, cattle-producing region.
- Draw these physical regions of the United States using information from a landforms features map.
  1. Pacific mountains and valleys
  2. Intermontane basins and ranges
  3. Rocky Mountains
  4. Interior plains
  5. Appalachian highlands
  6. Interior highlands (Quachitas and Ozarks)
  7. Piedmont
  8. Atlantic and Gulf Coastal plains
  9. Island groups
  10. Alaska with several landform regions

- Identify these climatic regions within the United States using information from a climatic map:
  1. Tropical wet
  2. Tropical dry
  3. Humid subtropical
  4. Mediterranean
  5. West Coast marine
  6. Mid-latitude dry
  7. Humid continental
  8. Cold
  9. Mountain

C. Patterns allow analysis of *regions.*

- Apply information gathered from thematic maps about a region to a written analysis of the character of a particular state, e.g., Pennsylvania, Kentucky, Wyoming, Alaska.
- Write a story in which the setting is derived from analysis of regional maps, visuals, charts, and graphs.
- Determine and map the market region of several stores in your local area by using information from interviews, radio, television, or newspaper advertisements, e.g., stores in the local area that sell products in all parts of the United States, in a nearby town or city, only in the local area.
- Provide examples of nodal regions that have a central place or several central places upon which the activity of that region is focused, e.g., the New York Stock Exchange is the place or node of a national and global investment region; hub airports are nodes for transportation regions; television stations are nodes for regional news coverage; state capitals are nodes for legislation.

III. Relationships exist among *regions.*

A. Relationships occur at a variety of scales.

- List ways that a community relies upon the local area, e.g., your locale and its food supply, its labor supply.
- Design maps to show ways in which a community is dependent upon a larger region of the United States, e.g, automobiles, food, construction materials.

B. Relationships result in global patterns.

- Identify three patterns, such as climate, economic, population, which the United States shares with other parts of the world.
- Outline the significance of selected global patterns for the United States.

C. Relationships result from physical and human systems.

- Identify and map several of the relationships that result from human systems interacting with physical systems in regions within the United States, e.g., land use for rangelands, climate and livestock raising, transportation density and industry.
- Map several global human and physical patterns, e.g., the paths or flows by which people, animals, beliefs, ideas, technology have been disseminated.

FUNDAMENTAL THEMES IN HUMAN GEOGRAPHY

POPULATION

Many topics may be studied in a human geography course. The systematic study often includes an examination of topics such as population, economic activities, urbanization, the environment, or political geography.

Population has been selected to illu' 'rate how the framework, Geography in Grades 7-12: Themes, Key Ideas, and Learning Opportunities, may be applied to the systematic study of human geography. The learning opportunities are suggestions designed to assist in developing the topic either as a course or a unit within a course. Teachers will need to select those learning opportunities, or modify others, that are appropriate to the maturity and abilities of a particular grade.

The learning opportunities are generally presented as an introductory suggestion, but each may be extended considerably and developed to incorporate higher order thinking levels.

Theme

Location: Position on the Earth's Surface

Key Ideas	Learning Opportunities
I. *Location* of places can be described using relative terms.	
A. Compass directions or time/distance may be used to describe relative *location*.	• Examine a map of population density in the local area, state, region, or world and describe the location of areas of greater and lesser population density relative to your location. • Identify the relative location of population centers or places with low population density. • Relate the locations of sparsely and densely populated areas to major physical features using physical maps, e.g., Nile River, Andes Mountains, tundra.
B. Relative *location* may reflect the perspective of an individual or group at a particular place or time.	• Describe how the population density of your surroundings changes throughout the day, e.g., home, class, shopping mall. • Draw sketch maps showing how the population density of your location changes during the day and on weekends.
II. *Location* of places can be described using formal reference systems.	• Describe the absolute locations of densely and sparsely populated areas of the world using population distribution and density maps. • Overlay a population map showing densely and sparsely populated areas with a grid. Categorize each of the grid cells as high, medium, or low in population density and analyze the grid pattern. • Determine the latitude and longitude of major world cities. • Map the locations of the major world cities and describe their patterns of location.
III. *Location* can be an analytical tool.	
A. Reasons can be identified for the *location* of places.	• Describe the site characteristics of major population centers of the world. • Develop and test generalizations about reasons for the location of sparse, medium, and high population density patterns worldwide using maps. • Draw inferences about the relative advantage of certain locations for the growth of cities.

Theme

Place: Physical and Human Characteristics

Key Ideas	Learning Opportunities
I. *Places* have physical characteristics.	
A. Physical characteristics include aspects of the lithosphere, hydrosphere, atmosphere, and biosphere.	• Describe landforms, climates, and vegetation of places in the world that are densely or sparsely populated using maps.
B. Physical characteristics result mainly from natural processes.	• Study the floodplains of two major rivers, one densely populated and the other sparsely populated, and describe the appearance of the floodplain, how it was formed, and the source of the material that formed it, e.g., Nile River, Amazon River. • Determine why people historically have chosen to live on floodplains.
C. Natural processes are parts of global systems.	• Identify floodplains in different parts of the world and describe the similarities in the natural processes that formed them. List features that would make them desirable or undesirable for populations.
II. *Places* have human characteristics.	
A. Human characteristics include population.	• Identify sources of data that help in the description and analysis of the people living in a place, e.g., United Nations, U.S. Bureau of the Census, World Bank. • Discuss the importance and limitations of having population data about the people in a place, e.g., it provides a portrait of the population; it may be out of date; it may be incomplete. • Define terms related to the changing population of a place, e.g., birth rate, death rate, growth rate, migration. • Identify population totals and the areas of selected countries and use the data to calculate arithmetic population densities. • Calculate physiological population densities of selected countries and compare them to the arithmetic densities. Analyze the importance of differences on the inhabitants. • Study examples of arithmetic and exponential growth of population and discuss the problems with each in analyzing the population geography of a place. • Examine and chart global population projections for your locale, various countries, and the world.

B. Human characteristics include culture.

- Identify cultural characteristics which may influence population change, e.g., large families for social status, labor supply, religious beliefs, modernization.
- Create tables which show populations of countries belonging to religious groups, language families, percentages urban, levels of economic development.

C. Human characteristics are parts of global patterns.

- Describe total world, country, and local population changes over time using a graph. Map the spatial patterns of change and suggest reasons for the changes.
- Describe selected population change rates over time and suggest economic and social implications of the changes.
- Compare population change in industrialized and agrarian societies both for rate of change and population projections for the future.
- Identify and map world locations where population density is the highest/lowest. Suggest reasons for the causes.
- Represent total population change and rates of change of different places graphically and on maps.

III. *Places* can be described in different ways.

A. *Places* can be represented by data and narrative.

- Conduct a class census of family data to develop different ways in which the information may be presented in tabular and narrative forms.
- Collect population data for different countries using reliable, up-to-date print resources and databases.
- Rank order countries from largest to smallest to compare those rankings with rankings of per capita income, total industrial output, etc. Determine if the most populous countries also lead in other types of development indicators.

B. *Places* can be represented graphically.

- Construct and compare examples of population pyramids from several different countries.
- Construct and analyze population pyramids for selected countries.
- Predict changes in the shapes of population pyramids for selected time periods and speculate on the causes and social and economic consequences.
- Make calculations and evaluate the strengths and weaknesses of data that show "per capita" and "average" conditions at a place.
- Discuss the importance and limitations of population projections.

- Calculate population doubling time for selected countries and the world as a whole, based on present rates of increase.
- Define zero and negative population growth using data and identify countries exhibiting such rates.
- Map countries with zero or negative population growth. Analyze the map and suggest reasons for the distribution pattern you have identified.
- Evaluate the strengths and weaknesses of population data indicators in terms of images and information they convey as well as ways such information may be misleading, e.g., number of doctors per capita, calorie intake per capita.
- View TV clips, films, and photographs to draw conclusions about population density. Compare your conclusions to statistics to analyze the validity of impressions gathered from media sources.

C. People's descriptions of *places* reflect their values, attitudes, and perceptions.

- Define the terms overpopulated and underpopulated.
- Suggest reasons why there is little agreement about whether or not places are overpopulated or underpopulated.
- Suggest reasons why people do not agree on practical ways either to slow or to increase population growth.
- Distinguish among terms such as developed/developing, have/have not, industrial/agrarian, modern/traditional.
- Write a description of the population in your local area using the terms above.
- Identify biases in terms such as developed/developing.
- Demonstrate how different populations may view a single place from many perspectives such as a cultural center, source of an important resource, political trouble spot, or origin point of a desired product, e.g., Mesopotamia/Persian Gulf area.
- Examine causes and effects of greatly increasing or declining population totals in selected world areas.

Theme

Relationships Within Places: Humans and Environments

Key Ideas

Learning Opportunities

I. *Relationships* within places include how people interact with the environment.

A. People interact with the environment to obtain a variety of resources that meet their needs and wants.

- Distinguish between needs and wants.

- Cite ways that populations depend on the natural environment to meet their needs and wants.
- Describe the ways that populations with different distributions and densities at several different places meet their needs.
- Compare and analyze maps showing the distributions of both population and resources.
- Compare graphs of population with the quantities of natural resources different countries produce and consume.
- Compare the differences in the amount of grain that a population uses per capita when meat, as opposed to predominantly grain and vegetables, is consumed. Discuss how this affects land use.

B. Distribution of resources varies from place to place.

- Determine, using maps, the availability of natural resources imported to or located within selected places.
- Analyze data that portray the constraints of the natural environment in supporting growing populations, e.g., Bangladesh, Ethiopia.
- Analyze solutions to environmental problems exacerbated by growing populations.

C. People perceive the environment in different ways.

- Discuss examples of how culture influences perceptions of environmental uses and potential, e.g., corn and cotton in the southeastern U.S., rice in southeast China, multi-crop traditional farming, modern monocultural production, cattle in India vs. the United States.
- Examine ways that the same environment has been used by different cultural groups during different historical periods, e.g., the North American Great Plains were used by native Americans, Spanish cattle ranchers, and Western European settlers in very different ways; the North Slope of Alaska was used by Natives for whaling and subsistence, while today it is used for oil production.

II. *Relationships* within places include how people adapt to, or modify, the environment.

A. People adapt to, or modify, the environment in different ways.

- Describe and evaluate ways in which different societies adapt to, or modify, the environment, e.g., terracing used to farm in rugged terrain.
- Examine ways, using case studies, in which ecosystems are changed as a result of different forms of human occupance and relate the effects to population densities and levels of technology.
- Examine environmental issues arising from current distribution and projected changes in world population and predict the effects of such changes.
- Examine how global economic interdependence creates modifications in the global environment, e.g., deforestation, ozone depletion, acid precipitation.

B. People's adaptations to, or modifications of, the environment are influenced by the characteristics of the environment in which they live.

- Describe ways in which people inhabit, modify, and adapt to different physical environments.
- Learn the differences between a conservationist, a preservationist, a naturalist, and an environmentalist and identify the perspectives of each on environmental quality.
- Recognize that population pressure on the natural environment can result from a small number of people using large amounts of resources and producing vast quantities of waste, e.g., United States.
- Examine why humans attempt to control the quality of the natural environment and to lessen the effects of hazardous natural events such as droughts, floods, earthquakes, and hurricanes.
- Evaluate the effects of human activity on similar environments under different resource management strategies, e.g., farming on the Great Plains as compared to the Ukraine.

C. Modification of the environment may affect regional/global systems.

- Analyze how human alterations of physical environments have both positive and negative consequences.
- Analyze ways in which an apparently local alteration of the environment can have a global effect, e.g., adding a pollutant to the global air or water system.

III. *Relationships* within places include changes in the environment.

A. Technology results in changes in the environment.

- Recognize that some populations with sophisticated technologies use resources and produce wastes more quickly than other populations with less sophisticated technologies.
- Examine several case studies showing how the human ability to modify physical environments and create cultural landscapes has increased in scope and intensity through the use of technology.

B. Environmental change varies from place to place.

- Categorize technologies and policies that can be used to limit or accelerate population growth.
- Map places where technology has been successful and where it has failed to support increasing populations.
- Identify constraints that limit the spread of available technologies for population control, e.g., cost, accessibility, values.
- Identify constraints that limit the ways much of the earth's land may be used for supporting ever increasing populations, e.g., soil fertility, climate, availability of water.
- Evaluate the effectiveness of policies in slowing population growth, e.g., China's former one child per family policy, the availability of educational and employment opportunities for women in a society.

C. Environmental change may influence regional/global systems.	• Identify environmental issues associated with urban/industrialized populations that influence regional/global systems, e.g., ozone depletion, acid precipitation, waste disposal. Map their global extent. • Identify environmental issues associated with rural/agrarian populations that influence regional/global systems, e.g., soil erosion, forest depletion. Map their global extent. • Evaluate the relative impact of urban/industrial and rural/agrarian populations on regional/global systems. • Test personal and group attitudes and values with respect to individual and collective responsibilities in finding solutions to issues concerning the use of the earth and its resources. • Suggest solutions to curb environmental problems facing the globe today.

Theme

Movement: Humans Interacting on the Earth

Key Ideas	Learning Opportunities
I. *Movement* results in patterns.	
A. Patterns are formed by the *movement* of people.	• Define the terms migration, immigration, and emigration. • Observe and map patterns of movement in the local environment, e.g., at different times in one day, on weekends, in different seasons. • Describe and map international and national patterns of movement affecting a country over time. • Describe international and national migration patterns, using maps, statistics, and narratives.
B. Patterns are formed by the *movement* of ideas, products and capital.	• Identify elements of culture that spread as the migration of people occurs, e.g., language, customs. • Map the patterns formed by the movement of ideas, products, and capital between and among population centers, e.g., McDonald's, shopping malls.
C. *Movement* occurs for a variety of reasons.	• Identify pushes and pulls that lead to international migrations, e.g., political, economic, religious/values. • Suggest reasons for internal migrations in selected countries, e.g., rural-urban, economic, environmental perception, population growth. • Research immigration laws of several countries to determine opportunities and impediments that affect the movement of people.

II. *Movement* involves linkages.

A. Linkages occur at a variety of scales.

- Identify and map examples of linkages that permit the population to move throughout the local community, e.g., commuting to work or school, subways, school buses, walking.
- Identify and map examples of linkages that permit the population to move on a national and international scale, e.g., Europe to South America.
- Compare local transportation to urban, national, and international scales.

B. Linkages involve transportation and communications networks.

- Identify linkages that facilitate movement of population, e.g., ship, railroad, airplane, automobile.
- Identify linkages that result from population movements to widely separated places, e.g., communication by mail, telephone, newspaper, satellite.
- Identify ways that technological changes in transportation and communications have facilitated the movement of people over time.
- Suggest ways that developments in transportation and communications have affected the growth or decline of major population centers over time, e.g., effects of the rise and, in some cases, the decline of railroads, telephone.
- Describe and map changes brought about in urban population distribution patterns as a result of the automobile, e.g., road networks, suburban growth, shopping malls.

C. Linkages result in diffusion.

- Identify examples of cultural diffusion resulting from population movements.
- Identify ways in which the landscape reflects that people of differing cultural backgrounds settled in a place, e.g., plants, foods, buildings.
- Describe the impact of population movements on the cultural diversity of a place, e.g., United States and Canada as mosaics/salad bowls in many communities.

III. *Movement* demonstrates interdependence.

A. Interdependence occurs at a variety of scales.

- Survey the students in the school to determine where they shop for food and clothing. Map the locations and connect them with flow lines to the school to show local interdependence by the number or scale of such visits.
- List causes and effects of several major and several minor migrations in history, e.g., India/Pakistan partition, Trail of Tears.
- Identify impacts on the destination/area of new settlements resulting from migrations.

B. Interdependence occurs for a variety of reasons.

- Identify reasons why people migrate. Classify reasons as *pushes* or *pulls*.

- Distinguish among various reasons for migrations, e.g., voluntary, forced, labor, and refugees.
- Research family histories to identify reasons for migration and map the routes followed including any intermediate stops in reaching the present locale.
- Compare and analyze the mapped family migration patterns to larger international and national patterns of migration.

C. Perceptions of interdependence vary.

- Examine case studies that demonstrate interdependence among peoples through a variety of connecting links at the global scale, e.g., guest workers in European countries, political refugees from southeast Asia, tourism.
- Develop examples of interdependence using case studies of populations that perceive the linkages with other places as economic, cultural, and emotional, e.g., ethnic roots, Chinese and Korean Americans sending money to support family members in the home nation.

Theme

Regions: How They From and Change

Key Ideas

Learning Opportunities

I. *Regions* are a way to organize information.

A. Regional boundaries are based on selected criteria.

- Draw a map entitled the "Four Most Populated Regions of the World," using population density and distribution maps, e.g., East Asia, South Asia, Western Europe, Northeast North America.
- Group countries in Europe into regions based upon more than 70% of the population living in urban centers; more than 50% to 69% living in urban centers.

B. *Regions* vary in scale and/or size.

- List possible reasons for the difference in population size between two or more regions.
- Discuss how the population density of the classroom and the entire school campus differ due to the scale and size of the area under consideration.

C. Regional boundaries change as criteria are changed.

- Draw hypothetical maps showing how regional boundaries might change as a result of future population or political changes and discuss the implications, e.g., ECC.

D. Perceptions of regions reflect values, attitudes, and knowledge.

- Suggest how people of differing cultural backgrounds might perceive a region as crowded or uncrowded.
- Identify places, using case studies, where public policy has restricted population growth through in-migration, e.g., several states in the Pacific Northwest have openly debated this issue; the migration of refugees in different regions of the world.

II. A *region* has common characteristics.

A. Common characteristics may persist or change.

- Construct a chart listing similar as well as differing characteristics of densely populated areas.
- Develop and analyze several case studies from different regions of the world where the characteristics of the population have either remained much the same or changed greatly.
- Develop and test hypotheses about the density of population in different regions over time.

B. Common characteristics form general patterns.

- Identify patterns formed by selected economic development indicators within regions in relationship to population e.g., GNP per capita, energy consumption per capita, distribution of labor force by economic activity.
- Select economic development data for several countries, graph and map the data, and explain the resulting patterns.
- Study several urban development patterns. Locate examples of each pattern using city maps or aerial photographs.

C. Patterns allow analysis of *regions*.

- Compare ways in which densely populated areas face social, economic, and political issues that are similar to and different from sparsely populated areas.
- Compare land use patterns resulting from population changes within a region over time using maps, aerial photos, and satellite images.
- Compare ways in which urban and rural populations initiate similar and/or different patterns of change in the landscape of a region using maps and photographs.
- Develop and test hypotheses about population changes in a region over time.

III. Relationships exist among *regions*.

A. Relationships occur at a variety of scales.

- Develop case studies in which the magnitude or lack of population in one region greatly affects an adjoining region, e.g., Bangladesh and India, India and Nepal, urban Kenya and rural/nomadic Kenya.
- Develop a case study in which the economic level of the population of one country/region is vastly different from a nearby country/region, and major population movement results, e.g., United States-Mexico, West Germany-Yugoslavia, Atlanta-rural Georgia, Bangkok-rural Thailand.

B. Relationships result in global patterns.

- Identify and account for global patterns that have caused major movements of people from one region to another at different times.
- Identify short and long term variations in the well-being of populations in several countries. Suggest future changes which may occur and the implications for the populations and the countries.

C. Relationships result from physical and human systems.

- Identify and develop several case studies that show how the influences of population affect physical systems, such as rivers, and how they may in time affect relationships between regions, e.g., the Ganges River connects Nepal, India, and Bangladesh where flooding is a problem; the Rhine connects Western European countries and is a carrier of much industrial waste.

SELECTED TERMS

The terms listed in this section were deemed to be significant for a better understanding of the intent of this document. Terms not listed here may be located in other reference texts, glossaries, and geographical dictionaries.

absolute location – the location of a point which can be expressed by a grid reference, e.g., latitude and longitude.

acculturation – the process of adopting the traits of a cultural group.

acid precipitation (rain or snow) – precipitation with a pH value of 5.6 or lower (7 is neutral; less than 7 increasing in acidity and more than 7 increasing in alkalinity). The precipitation contains excessive amounts of acid formed when oxides of sulphur and of nitrogen released by combustion of fossil fuels are converted to acids in the atmosphere.

aerial (air) photograph – a photograph of part of the Earth's surface usually taken from an airplane; also referred to as photo images.

age-sex ratio – the ratio of males to females in each age cohort.

Antarctic Circle – 66.5° S latitude encircling the continent of Antarctica. From this latitude to the South Pole, daylight lasts for 24 hours on the winter solstice, December 22; whereas, on the summer solstice of June 21, continual darkness prevails.

aquaculture – the cultivation of plants and animals in a controlled water environment.

Arctic Circle – 66.5° N latitude. From this latitude to the North Pole, daylight lasts for 24 hours on the summer solstice of June 21; whereas on the winter solstice of December 22, there is continual darkness.

atmosphere – the colorless and odorless mantle of gases that is held by gravity around the Earth. Up to a height of about 20 km these gases are a mixture by volume of 78% nitrogen, 21% oxygen, 0.03% carbon dioxide, and about 0.9% argon and other gases. Water vapor amounts vary from place to place.

basic (primary) industry – a human activity which uses natural resources, e.g., fishing, mining, forestry, agriculture.

biomass – the total mass of living organisms (plant and animal) in a particular area.

biome – an organic community that contains ecosystems with common characteristics.

biosphere – the realm of the Earth which includes all plant and animal life forms.

capital – one of the factors of production of goods and services. Capital can be goods (factories and equipment, highways, communications systems, etc.), and/or funds (investment and working capital) used to increase production and wealth. Other factors of production are land and labor.

cardinal directions – the four main points of the compass–north, south, east, and west.

central place – a town or city which provides services to a region functionally tied to it.

case study – the analysis and explanation of a particular topic, place, or region.

choropleth map – maps that show the relationship between quantity or density and area using coloring or shading.

climate graph (climograph) – a graph which combines average temperature and precipitation data for a particular place.

commercial agriculture – a form of agriculture in which crops are cultivated for sale rather than for personal consumption.

cost-distance – the amount of money necessary to cover travel between two places.

country – a politically defined territory delimited by a boundary which separates it from other countries.

Selected Terms

culture – learned behavior of people which includes their belief systems and languages, their social relationships, their institutions and organizations, and their material goods, including food, clothing, buildings, tools, and machines.

cultural diffusion – the spread of cultural elements from one culture to another.

cultural homogeneity – a cultural characteristic of a place or area which has uniformity.

cultural identity – the fact and feeling of belonging to a particular culture group with shared origins, language, art, religion.

cultural landscape – the human imprint on the landscape; the physical environment as created or modified by people.

define (region) – to describe verbally the criteria, limits, or boundaries.

deforestation – the removal of forest and its undergrowth by natural or human forces.

delimit (region) – to fix or mark the limits or boundaries on a map.

demographic change – changes in population size, composition, rates of growth, density, fertility and mortality rates, and patterns of migration.

demography – the study of population statistics, trends, and changes over time based on factors such as birth rates, fertility ratios, death rates, mortality ratios, patterns of disease, immigration and emigration.

density – the population or number of objects per unit area.

desertification – the spread of desert-like conditions in arid and semi-arid regions resulting from a combination of climatic changes and increasing human pressures such as overgrazing, removal of vegetation, and cultivation of marginal land.

developed (country) – applied particularly to a modern industrial country or region.

developing (country) – applied particularly to a traditional, less industrialized country or region which is experiencing economic growth and social development.

diffusion – the spread between or among places of people, ideas, technology, and products.

distribution – the arrangement of items over a specified area.

ecosystem (ecological system) – a system formed by the interaction of all living organisms (plants, animals, humans) with each other and with the physical and chemical factors of the environment in which they live.

environment – everything in and on the Earth and its atmosphere within which organisms, communities, or objects exist.

Equator – 0° latitude. An imaginary line running east-west around the globe and dividing it into two equal parts known as the northern and southern hemispheres. That place on the Earth which always has approximately twelve hours of daylight and twelve hours of darkness.

ethnic diversity – variety in the racial and/or cultural makeup of a population.

ethnic identity – belief by a group, which is part of a larger population, that it possesses a distinct culture of its own; members of such a group feel a common origin often based on race, religion, and/or national origin.

ethnocentrism – the belief in the inherent superiority of one's own group and culture, a tendency to view all other groups or cultures in terms of one's own.

fauna – the animal life of an area or region.

flora – the plant life of an area or region.

flow chart – a chart or diagram showing a series of interconnected events, actions, or items which indicate the progressive development of a theme, product, or other objective.

flow map – a map with arrows and lines showing how something diffuses.

formal region – a region defined by the uniformity or homogeneity of certain characteristics such as precipitation, landforms, subculture, or type of economic production.

functional region – the functional unity of a region is often provided by a strong node or center of human population and activity. Regions that are defined by their ties to a central node are classified as nodal or functional regions.

geographic information systems (GIS) – a geographic database that contains information about the distribution of physical and human characteristics of a place or area. Maps of one characteristic or a combination can be produced from the database to analyze the relationships between and among data for a place in order to test hypotheses.

grid – a pattern of lines on a chart or map, such as those representing latitude and longitude, which allows determination of absolute location and assists in the analysis of distribution patterns.

Gross Domestic Product (GDP) – the total monetary value of the goods and services produced in a country during one year.

Gross National Product (GNP) – Gross Domestic Product adjusted to include the values of goods and services from other countries that were subsequently used in producing goods and services within a country.

greenhouse effect – the heating-up of the Earth's atmosphere due to the increase of carbon and other chemicals from combustion and manufacturing.

hemisphere – half a sphere. Map makers and geographers, by convention, divide the Earth into the northern and southern hemispheres at the Equator, and the eastern and western hemispheres at the Prime Meridian and 180° meridian.

homogeneous region – see formal region

human characteristic – the characteristics of places or areas that derive from the presence of humans and aspects of their culture.

hydrologic cycle (water cycle) – the continuous circulation of water from the oceans, through the air, to the land, and then back to the sea. Water evaporates from oceans, lakes, rivers, and the land surface and transpires from vegetation. It condenses into clouds in the atmosphere which may result in precipitation returning water to the land. Water then seeps into the soil or flows out to sea, completing the cycle.

hydrosphere – the water realm of the Earth which includes the water contained in the oceans, lakes, rivers, ground, glaciers, and water vapor in the atmosphere.

imagery – picture-like images based upon electronic data measuring the electro-magnetic spectrum of the earth obtained by use of radar, infrared, and other sensing devices in aircraft or satellites.

industrialization – the growth of large-scale machine production and the factory system. The process of introducing manufacturing into countries or regions where most of the people are engaged mainly in primary activities.

interdependence – reliance by people, in different places and within the same place, upon each other for ideas, goods, and services.

intermediate directions – the points of the compass that fall between north and east, north and west, south and east, south and west, e.g., NE, NW, SE, SW.

International Date Line – an imaginary line which roughly follows the 180° meridian in the Pacific Ocean. West of this line the calendar date is one day ahead of the calendar date east of the line. People crossing the line in a westward direction lose a day, while those crossing eastward gain a day.

landform – the shape, form, or nature of a specific physical feature of the Earth's surface, e.g., plain, hill, plateau, mountain.

land use – the range of uses made by people of the surface of the Earth. Uses are classified as urban, rural, agricultural, forested, etc. with more specific subclassifications useful for specific purposes such as high-income residential, nursery crops, or pine forest.

Selected Terms

latitude – the position of a point on the Earth's surface expressed as its angular distance from the equator at zero degrees in either north or south directions to 90° at the poles.

linkage – the contact and flow of ideas, information, people, and/or products between places.

lithosphere – the crust of the Earth, including soil, land, and geologic formations.

location – the position of a point on the surface of the Earth expressed by means of a grid (mathematical) or in relation (relative) to the position of other places.

longitude – the position of a point on the Earth's surface expressed as its angular distance from the Prime Meridian in either east or west directions to 180°.

manufacturing (secondary) industry – the transformation of materials into products of greater value by mechanical power. The processing or changing of raw materials and foodstuffs into a useful form.

megalopolis – the coalescence of two or more metropolitan areas into a continuous or almost continuous built-up urban complex, sometimes referred to as conurbation.

mental construction – an abstraction, such as an area or region, that is identified on the basis of certain selected characteristics; the area may exist only in the context of the chosen criteria.

mental map – a map which represents the mental image a person has of an area, including both knowledge of features and spatial relationships as well as the individual's perceptions and attitudes regarding the place.

migration – the act or process of moving from one place to another with the intent of staying at the destination permanently or for a relatively long period of time.

mobility (human) – the ability of people to move readily from one place to another or from one job to another.

multiculturalism – pluralistic societies in which there are a number of subcultures.

nation – a cultural concept implying a group of people bound together by a strong sense of shared values, cultural characteristics, and common history.

natural vegetation – plants originally found together in an area. Little of the world's vegetation is entirely unmodified by human activities.

neighborhood – a number of persons living near one another or in close proximity which may allow for everyday social contact.

network – an areal pattern of links between points along which movement can take place.

nodal region – see functional region

non-renewable resource – a finite resource which cannot be replaced once it is used, e.g., petroleum, minerals.

North Pole – the geographic point farthest north on Earth. The northern end of the Earth's axis. On maps that place where meridians converge in the northern hemisphere.

OPEC – Organization of Petroleum Exporting Countries.

overpopulation – a situation in which the existing population is too large to be adequately supported by available resources. This should not be confused with dense population.

ozone layer – a layer in the stratosphere at an altitude of twenty to thirty kilometers that protects the troposphere and the Earth's surface from the full intensity of ultra-violet radiation.

physical characteristic – the aspects of the landscape associated with physical and environmental processes.

physical feature – an aspect of a place or area which derives from the physical environment.

Selected Terms

physiography – the study of the Earth's surface and its physical features, including the relationship between air, land, and water.

physiological population density – the relationship between the total population of a country and the quantity of land classified as arable and permanent pasture.

places – locations having distinctive characteristics that give them meaning and character and distinguish them from other locations.

plantation agriculture – a type of agriculture involving large landholdings that produce cash crops such as tea, rubber, coffee, sugar cane, or cacao.

pollution – the direct or indirect process resulting from human action by which any part of the environment is affected in such a way that it is made potentially or actually unhealthy, unsafe, impure, or hazardous to the welfare of the organisms which live in it. The wrong substance in the wrong place in the wrong amount at the wrong time.

population density – the number of individuals occupying a particular unit of area derived from dividing the number of people in a unit area by the area they occupy, e.g., 2,000 people divided by 10 square miles = 200 people per square mile.

population distribution – the pattern of location of people in an area.

population pyramid (age-sex graph) – a special type of bar chart that shows the distribution of a population (usually of a country) according to its age and sex structure expressed in a frequency distribution which may take the form of a pyramid, the horizontal bars of which are drawn proportional to actual numbers or percentages of the population in each age-sex group.

Prime Meridian(Greenwich Meridian) – 0°; the standard meridian from which longitude is measured. The Prime Meridian crosses Greenwich in London, England, the site of the Royal Naval Observatory.

rainforest – a dense forest growing in wet tropical and warm temperate regions with heavy, evenly distributed rainfall throughout the year.

range system of land division – a rectilinear grid used in the United States to divide land for homesteading in the states west of the original Thirteen Colonies.

raw material – a basic commodity (natural or partly processed) which must be transformed by an industrial or manufacturing process into a more valuable product before being used.

region – an area with one or more common characteristics or features which give it a measure of unity and make it different from the surrounding areas.

regional disparity – patterns of inequality within or between regions.

relative location – the location of a place or region in relation to another place or region.

renewable resource – a resource which can be regenerated if used carefully, e.g. fish, timber.

remote sensing – information gathering about the Earth's surface from a distance using air photography, radar, or satellites.

resource – a feature of the environment that people value and use to meet a need for food, shelter, clothing, transportation, etc.

satellite image – an image produced by a variety of sensors such as radar, microwave detectors, and scanners which measure and record electromagnetic radiation. The collected data are turned into digital form for transmission to ground receiving stations where they can be stored. The data can then be reconverted into imagery in a form resembling a photograph.

scale – on maps the relationship or ratio between a linear measurement on a map and the corresponding distance on the Earth's surface. Also refers to the size of the place or region being studied.

Selected Terms

sequent occupance – the settlement of an area by successive groups, each in turn creating a distinctive cultural landscape.

service (tertiary) industry – an activity concerned with service to other industries or to individuals, e.g., financial, commercial, educational, professional institutions, trades, transport, and communication.

settlement pattern – the distribution of any group of human habitations, including rural and urban centers.

shifting cultivation – a system of cultivation in which a field is cleared, cropped, and harvested and after a few years, with the initial fertility exhausted, is abandoned in favor of a new field. Also known as slash-and-burn, milpa, or swidden.

site – the place where something is located, including its physical setting.

situation – the location of something in relation to other places or features of a larger region.

sketch map – a map that is roughly drawn with little attention to scale.

South Pole – the geographical point farthest south on the Earth. The southern end of the Earth's axis. On maps that place in the southern hemisphere where meridians converge.

state – a political subdivision of a country. Sometimes refers to a country, e.g., an independent state.

stereotype – generalizing the characteristics or traits of a few people to an entire group.

subsistence agriculture – a form of agriculture in which crops are cultivated for personal consumption rather than for sale, in which the emphasis is on self-support.

tariff – an official schedule of duties imposed by a government on imports.

technology – the process used to provide goods needed by people.

thematic map – a map representing a specific spatial distribution, theme, or topic, e.g., population density, cattle production, or climates of the world.

time-distance – the amount of time necessary to travel between two places.

time zone – the division usually represented by 15° longitude within which the time at the central meridian of the division represents the whole division.

topographic map – a detailed map on a large scale (1:25,000 or 1.50,000) illustrating selected natural and human features of a place.

travel effort – the difficulty involved in moving from one place to another as measured in time, monetary cost, or physical distance.

Tropic of Cancer – 23.5° N latitude; the farthest north the sun is directly overhead during the year on June 21.

Tropic of Capricorn – 23.5° S latitude, the farthest south the sun is directly overhead during the year on December 21.

underpopulation – a situation in which the existing population is not using all available resources.

urbanization – a process in which there is an increase in the percentage of people living/working in urban places as compared to rural places.

urban landscape – the cultural landscape of cities.

Venn diagram – a diagram that uses overlapping circles drawn to represent sets and their relationships.

watershed – the drainage area of a river and its tributaries; their source of water from rainfall and run-off.

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Notes to the curriculum and course planner:

- Excellent atlases on states, countries, the world, and major world regions are available. A selection of these atlases should be accessible to students in geography either in the classroom or in the school library.
- Curriculum planners may also wish to order geographical dictionaries for the school library.

Geographic Education National Implementation Project

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The Project

In 1984 a joint committee of the National Council for Geographic Education and the Association of American Geographers published the *Guidelines for Geographic Education: Elementary and Secondary Schools*. This 28 page booklet was designed to inform educational decision makers about the need to institute, update, and enrich geography programs in America's schools. The guidelines address the growing problem of geographical illiteracy in our society and provide a blueprint for developing a sequence of programs that will improve the the teaching and learning of geography in the elementary and secondary schools.

Acting upon the favorable public response to the *Guidelines*, the National Council for Geographic Education (NCGE) and the Association of American Geographers (AAG) agreed to combine their efforts to implement the recommendations of the *Guidelines* nationwide. The American Geographical Society (AGS) and the National Geographic Society (NGS) joined with the NCGE and the AAG to form the Geographic Education National Implementation Project (GENIP) on July 1, 1985. The GENIP is a national project to improve the status and quality of geographic education in grades K-12 in the United States. This publication is one of the GENIP activities designed to implement the *Guidelines* by promoting geographic education.